# NOTES ON GRAMINEAE, —I.

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In the past two years' study certain necessary changes in the nomenclature of the Gramineae of the seventh edition of Gray's Manual have been noted and furthermore in collections which have been examined certain additions to the Manual have appeared. With a view to calling these facts to the attention of the Manual users this paper has been prepared.

Holcus halepensis L. Sp. Pl. **2**: 1047 (1753). *Sorghum halepense* (L.) Pers. Syn. **1**: 101 (1805); Hitchc. in Gray Man. ed. 7, 95 (1908). *Andropogon halepensis* (L.) Brot. Fl. Lusit. **1**: 89 (1806).— As pointed out by Hitchcock in Jepson Fl. Calif. 126 (1912) *Holcus* L. should be used for the species which recent authors have called Sorghum rather than those for which they have retained the name. While not accepting the type-species reason as a basis for this change, I have reached the same conclusion by studying the description of Holcus as given by Linnaeus Gen. Pl. ed. 5 469 (1754) which I believe applies to *H. Sorghum* and its allies and really excludes *H. lanatus* and its allies. This conclusion is strengthened by Linnaeus's generic synonym, *Sorghum*, Mich.

Digitaria Ischaemum Schreb. ex Muhl. Descr. Gram. 131 (1817). *Panicum lineare* Krock. Fl. Siles. **1**: 95 (1787) non L. *P. Ischaemum* Schreb. ex Schweigg. Spec. Fl. Erlang. 16 (1804). *D. humifusa* Pers. Syn. **1**: 85 (1805); Hitchc. in Gray Man. ed. 7, 95 (1908). *P. glabrum* Gaud. Agrost. Helv. **1**: 22 (1811). *D. glabra* (Gaud.) Beauv. Agrost. 51, 169 (1812). *D. linearis* (Krock.) Rostaf. in Verh. Zool.-Bot. Ges. Wien. **22**: 99 (1872) non Pers. *Syntherisma linearis* (Krock.) Nash in Bull. Torr. Bot. Cl. **22**: 420 (1895). *S. humifusum* (Pers.) Rydb. in Mem. N. Y. Bot. Gard. **1**: 469 (1900). *S. Ischaemum* (Schreb.) Nash in No. Am. Fl. **17**: 151 (1912).

Although there is no specimen of *D. Ischaemum* in the Muhlenberg herbarium [according to the list of grasses given by Scribner and Merrill in Circ. U. S. Div. Agrost. **27** (1900)] there seems little question of the identity of his species. In the first place Muhlenberg cites Schreber as the authority of his plant and Schreber was a friend of his so that he was probably in correspondence with him and probably *D. Ischaemum* is based on *Panicum Ischaemum* which is unquestionably the same as *D. humifusa*. Moreover although, in most respects, Muhlenberg's description is broad enough to apply to both *D. sanguinalis* and *D. humifusa*, "nodis glabris" and "Vaginis striatis glabris purpurascentibus" certainly answer to the latter and not to the former.

Furthermore Muhlenberg, in the same work, has descriptions of both *D. sanguinalis* and *D. filiformis*, the only other species which his description could apply to, so that all told it seems probable that he was describing the plant we have known as *D. humifusa*. Consequently I am accepting Schreber ex Muhlenberg as the authority for *D. Ischaemum* which is without question the correct specific combination for the plant recently treated as *D. humifusa*.

ECHINOCHLOA CRUSGALLI (L.) Beauv. forma **vittata** forma nov.— Differt a typo foliis inter nervos virides flavo-viridibus. NEW BRUNSWICK: Shediac Cape, August 19, 1916, house yard, *F. Tracy Hubbard*, no. 763 (TYPE, in Herb. Hubb.). MASSACHUSETTS: Stoughton, September 15, 1912, waste ground, in yard, *S. F. Blake*, no. 4639.

This plant is at once noticeable on account of its almost golden leaves veined with rather dark green. Otherwise it seems to show no variation from the type.

SETARIA **lutescens** (Weigel) comb. nov. *Panicum glaucum* Auct. non L. *P. lutescens* Weigel Obs. 20 (1772). *S. glauca* Auct. as to plant. *Chaetochloa lutescens* (Weigel) Stuntz in U. S. Bur. Pl. Ind. Inv. Seeds & Pl. Imp. **31**: 36, 86 (1914).— As pointed out by Stuntz in the above mentioned article *Panicum glaucum* L. should be applied to the pearl millet which has been called *Pennisetum americanum* (L.) K. Schum., but now becomes *Penn. glaucum* (L.) R. Br. The oldest available name for the plant known as *S. glaucum* is *Panicum lutescens* Weigel, consequently the correct name of our plant is *S. lutescens*. *S. glauca* (L.) Beauv. and *Chaetochloa glauca* (L.) Scribn. are typonyms of Pennisetum glaucum.

SETARIA VIRIDIS (L.) Beauv. var. WEINMANNII (R. & S.) Brand in Koch Syn. Deutsch. Fl. ed. 3, **3**: 2690 (1905); Fernald & Wiegand in RHODORA **12**: 133 (1910). *S. viridis* var. *breviseta* (Doell.) Hitchc. in RHODORA **8**: 210 (1906); Hitchc. in Gray Man. ed. 7, 119 (1908).— As pointed out in Am. Journ. Bot. **2**: 181 (1915) it seems undesirable to separate var. *breviseta* from var. *Weinmannii* and as the latter is the earliest varietal name which we can apply with certainty to this form it replaces var. *breviseta*.

SETARIA ITALICA (L.) Beauv. [sensu amplissimo] Agrost. 51, 170, 178 (1812).— This species is most readily distinguished from *S. viridis* by the fact that the spikelet in the latter is articulate below the glooms; the complete spikelet shelling out leaving a cup-like receptacle whereas *S. italica* has the spikelet articulate above the glooms; the fruit only shelling out leaving the glumes and sterile lemma behind. For a complete treatment of *S. italica* and variations see Am. Journ. Bot. **2**: 183–196 (1915) of which variations the following have so far been noted within the Manual range: subsp. STRAMINEOFRUCTA Hubb.[1] and its forma BREVISETA (Doell) Hubb. [Golden Wonder Millet, treated in the Manual as var. *germanica*]; subsp. STRAMINEOFRUCTA

[1] These combinations were all made in Am. Journ. Bot. **2**: 183–196 (1915).

subvar. GERMANICA (Mill.) Hubb. with its forma MITIS (Alef.) Hubb.; subsp. STRAMINEOFRUCTA var. HOSTII Hubb. and its subvar. METZGERI (Körnicke) Hubb. and subsp. STRAMINEOFRUCTA var. BRUNNEOSETA subvar. DENSIOR Hubb.

ORYZOPSIS CANADENSIS (Poir.) Torr. ex Gray Man. 583 (1848) as to name bringing synonym not as to plant.[1] *Stipa canadensis* Poir. in Lam. Encycl. **7**: 452 (1806); Hitchc. in Gray Man. ed. 7, 123 (1908) — Some time ago Prof. Hitchcock pointed out to me that *Stipa canadensis* was in reality an *Oryzopsis*.

MUHLENBERGIA SQUARROSA (Trin.) Rydb. in Bull. Torr. Bot. Cl. **36**: 531 (1909). *Vilfa squarrosa* Trin. in Mem. Acad. St. Petersb. Ser. 4, Sci. Nat. **5**$^2$: 100 [separate 73] (1840). *V. Richardsonis* Trin. l. c. Ser. 4, Sci. Nat. **5**$^2$: 103 [separate 81] (1840). *V. depauperata* Torr. ex Hook. Fl. Bor. Am. **2**: 257 (1840) not *M. depauperata* Scribn. in Bot. Gaz. **9**: 187 (1884). *M. aspericaulis* Nees ex Steud. Nom. ed. 2, **2**: 164 (1840) nomen. *Sporobolus depauperatus* (Torr.) Scribn. in Bull. Torr. Bot. Cl. **10**: 63 (1883). *S. Richardsonis* (Richardsonii) (Trin.) Merr. in RHODORA **4**: 46 (1902); Hitchc. in Gray Man. ed. 7, 130 (1908). *M. Richardsonis* (Trin.) Rydb. in Bull. Torr. Bot. Cl. **32**: 600 (1905).

Careful study of the genera *Sporobolus*, *Muhlenbergia* and *Epicampes* has led me to agree with the conclusion of Rydberg and others that the whole of the group of *Sporobolus* to which *S. Richardsonis* and *S. brevifolius* belong is more correctly placed in *Muhlenbergia* than in *Sporobolus*. Furthermore I can find no specific differences between *M. squarrosa* and *M. Richardsonis* and as *Vilfa squarrosa* has priority of place in Trinius's paper I take squarrosa as the name of the collective species that the same name may be used under both codes.

MUHLENBERGIA CUSPIDATA (Torr.) Rydb. in Bull. Torr. Bot. Cl. **32**: 599 (1905). *Agrostis brevifolia* Nutt. Gen. No. Am. Pl. **1**: 44 (1818) not *M. brevifolia* Scribn. ex Beal Grasses No. Am. **2**: 254 (1896). *Sporobolus cuspidatus* (cuspidata) (Torr.) Wood Sedges & Grasses Atlant. Div. U. S. 385 (1871); Scribn. in Bull. Torr. Bot. Cl. **10**: 63 (1883). *S. brevifolius* (Nutt.) Scribn. in Mem. Torr. Bot. Cl. **5**: 39 (1894); Hitchc. in Gray Man. ed. 7, 130 (1908).

As there is a valid *M. brevifolia* Scribn. ex Beal *S. brevifolius* when transferred to *Muhlenbergia* must become *M. cuspidata*.

GINANNIA Bub. Fl. Pyr. **4**: 321 (1901) non Scop. nec F. G. Dietr. nec Montagne nec M. Roem. *Holcus* Auct. non L. *Homalachna* (Benth. & Hook. f.) Post & Ktze. Lex. Gen. Phan. 285 (1903) in part. *Notholcus* Nash ex Hitchc. in Jepson Fl. Calif. 126 (1912).— As stated above *Holcus* is reapplied to the Sorghum group leaving the *Holcus* of authors in need of a name. The oldest generic name, aside from Holcus is *Ginannia* Bub. which according to the American Code is inadmissible

[1] The plant treated is *O. pungens* (Torr.) Hitch.

as there are four older uses of the name. However as all four are reduced to synonymy this allows *Ginannia* Bub. to be retained according to the International Rules — *Ginannia* Scop. Introd. 300 (1777) equals *Palovea* ("Palone") Aubl. Hist. Pl. Guiane **1**: 365 (1775). *Ginannia* F. G. Dietr. Vollst. Lex. Gaetrn. **4**: 357 (1800) equals *Gilibertia* Ruiz & Pav. Fl. Peruv. et Chil. Prodr. 50 (1794). *Ginnania* Montagne in Webb & Berth. Phytogr. Canad. **4**: 162 in adnot. (1840) a genus of Algae is a synonym of *Scinaia* Biv. Scinaia (1822). *Ginnania* M. Roem. Synops Monogr. **1**: 79, 90 (1846) is a synonym of *Turraea* L. Mant. Alt. 150 (1771).

Ginannia **lanata** (L.) comb. nov. *Holcus lanatus* L. Sp. Pl. **2**: 1048 (1753). *G. pubescens* Bub. l. c. 321 (1901). *Notholcus lanatus* (L.) Nash ex Hitchc. in Jepson l. c. 126 (1912).

Sphenopholis pennyslvanica (L.) Hitchc. in Am. Journ. Bot. **2**: 304 (1915). *Avena pennsylvanica* L. Sp. Pl. **1**: 79 (1753). *A. palustris* Michx. Fl. Bor. Am. **1**: 72 (1803). *Trisetum pennsylvanicum* (L.). Beauv. Agrost 154 (index) (1812) [the comb. is not made]; ex R. & S. Syst. **2**: 658 (1817). *T. palustris* (Michx.) Torr. Fl. No. & Mid. U. S. **1**: 126 (1824). *T. ludovicianum* Vasey in Bull. Torr. Bot. Cl. **12**: 6 (1885). *S. palustris* (Michx.) Scribn. in Rhodora **8**: 145 (1906); Hitchc. in Gray Man. ed. 7, 139 (1908.) — As pointed out by Hitchcock in Am. Journ. Bot. **2**: 304 (1915) the specimen of Avena pennsylvanica in the Linnean Herbarium is identical with the species that has been called *S. palustris* and consequently as the older specific name must replace palustris.

Var. **flexuosa** (Scribn.) comb. nov. *S. palustris* var. *flexuosa* Scribn. in Rhodora **8**: 145 (1906); Hitchc. in Gray Man. ed. 7, 139 (1908).— As the specific combination has been altered a new combination is required in transferring the variety.

Arrhenatherum elatius (L.) Beauv. var. **nodosum** (Reichb.) comb nov. *Gramen bulbosum nodosum* Lobel Icon. Stirp. Pl. 23 (1591). *Gramen nodosum, avenacea panicula* C. Bauhin Pinax 2 (1623); C. Bauhin Theatr. Bot. 18, fig. (1658); Scheuchzer Agrost. 237, t. 4, f. 27 & 28 (1719). *Gramen avenaceum gemmea radice seu nodosa minor* Morison Hist. **3**, Sect. 8, p. 214, t. 7, f. 38 (1715). *Avena panicula nutante, calycibus bifloris, altero flosculo aristato* Royen Fl. Leyd. Prodr. 66 (1740). *Avena elatior* β. L. Sp. Pl. **1**: 79 (1753). *Avena tuberosa* Gilib. Exercit. **2**: 538 (1792). *Av. precatoria* Thuill. Fl. Par. ed. 2, 58 (1799). *Av. bulbosa* Willd. in Ges. Naturf. Fr. Berl. Neue Schr. **2**: 116 (1799). *Holcus bulbosus* (Willd.) Schrad. Fl. Germ. **1**: 248 (1806). *Arrhen. precatorium* (Thuill.) Beauv. Agrost. 56, 152, 154 (1812). *Arrhen. bulbosum* (Willd.) Presl Cyp. & Gram. Sic. 29 (1820). *Arrhen. avenaceum* var. β *nodosum* Reichb. Icon. Bot. Pl. Crit. Cent. **11**: [Agrost. Germ.] 45, t. 104, f. 1717 (1834); Reichb. Icon. Fl. Germ. et Helv. **1**: [Agrost. Germ. ed. 2] 19, t. 104, f. 1717 (1850). *Arrhen avenaceum* * *nodosum* Kirschl. Prodr. Fl. Alsac. 210 (1836). *Av. elatior* b. *nodosa* (Reichb.) Mutel Fl. Fr. **4**: 65 (1837). *Arrhen.*

*elatius* β *bulbosum* (Willd.) Koch Syn. Fl. Germ. et. Helv. 793 (1837). *Holcus avenaceus* var. β. *nodosus* (Reichb.) Vis. Fl. Dalmat. **1**: 47 (1842). *Arrhen. nodosum* (Reichb.) Kirschl. Fl. Alsac. **2**: 313 (1857). *Av. elatior* d) *tuberosa* (Gilib.) Aschers. Fl. Prov. Brandenb. **1**: 826 (1864), *Av. elatior* B. *tuberosa* (Gilib.) Aschers. & Graebn. Syn. Mitteleur. Fl. **2**[1]: 231 (1899). *Arrhen. elatius* β *tuberosum* (Gilib.) Halácsy Consp. Fl. Graec. **3**: 375 (1904).

Readily distinguished from the type by the nodulose corms at the base of the culm. This plant was mentioned in RHODORA **13**: 9 & 207, t. 85 (1911) and specimens of it were mentioned from Virginia. MASSACHUSETTS: Plymouth, June 22, 1912, dump, *S. F. Blake*, no. 3854. The earliest varietal name is nodosum and this should replace the current tuberosum.

Forma **striatum** nom nov. *Arrhen bulbosum variegatum* Hort. cf. Hitchc. in Bail. Stand. Cycl. Hort. **1**: 397 (1914).— Differt a typo varietatis foliis albo-striatis. MASSACHUSETTS: Plymouth, June 22, 1912, dump, *S. F. Blake*, no. 3855.— This form is quite clearly separated from the normal form of the variety by the white-striated leaves.

ERAGROSTIS CILIANENSIS (All.) Link ex Viguolo-Lutati in Malpighia **18**: 386 (1904). *Briza Eragrostis* L. Sp. Pl. **1**: 70 (1753). *Poa multiflora* Forsk. Fl. Aegypt.-Arab. 21 (1775) non *E. multiflora* (Roxb.) Trin. in Mem. Acad. St. Petersb. **6**[1]: 401 (1830). *P. cilianensis* All. Fl. Pedem. **2**: 246, t. 91, f. 2 (1785). *P. Eragrostis* Cav. Icon. **1**: 63, t. 92 (1791) non L. *B. oblonga* Moench Meth. 185 (1794). *P. megastachya* Koel. Gram. 181 (1802). *E. major* Host Gram. Austr. **4**: 14, t. 24 (1809). *E. megastachya* (Koel.) Link Hort. Berol. **1**: 187 (1821); Hitchc. in Gray May. ed. 7, 150 (1908).— As pointed out in Philipp. Journ. Sci. Bot. **8**: 159 (1913) the oldest valid name for the species called *Eragrostris megastachya* is *E. cilianensis*.

POA PALUSTRIS L. Syst. Nat. ed. 10, **2**: 874 (1759); Roth. Tent. Fl. Germ. **1**: 43 (1788); **2**[1]: 117 (1789). *P. serotina* Ehrh. Beitr. **6**: 83 (1791) nomen. *P. triflora* Gilib. Exercit. **2**: 531 (1792); Hitchc. in Gray Man. ed. 7, 156 (1908). *P. riparia* Wolff in Hoffm. Deutschl. Fl. **1**: 42 (1800). *P. fertilis* Host Gram. Austr. **3**: 10, t. 14 (1805). *P. hydrophila* Pers. Syn. **1**: 89 (1805). *P. effusa* Kit. in Schult. Oesterr. Fl. ed. 2, **1**: 227 (1814). *P. angustifolia* Wahlenb. Fl. Ups. 34 (1820) non L. *P. adspersa* Drejer Fl. Excurs. Hafn. 35 (1838).— As pointed out by Ascherson and Graebner Syn. Mitteleur. Fl. **2**[1]: 416 (1900) *Poa palustris* L. is unquestionably the same as the plant called *P. triflora* in spite of Linnaeus's false synonymy. This view is strengthened by the fact that the plant was well characterized under the Linnean name by Roth Tent. Fl. Germ. **2**[1]: 117 (1789) which antedates all other names applied to the species. This name is accepted by the more recent European botanists.

FESTUCA CAPILLATA Lam. Fl. Fr. **3**: 597 (1778). *F. tenuifolia* Sibth. Fl. Oxon. 44 (1794). *F. paludosa* Gaud. Agrost. Helv. **1**: 229 (1811). *Poa capillata* (Lam.) Merat Nouv. Fl. Env. Par. 38 (1812). *F. mutica*

Wulf. Fl. Norica Phan. ed. Fenzl & Graf. 145 (1858). *F. ovina* subsp. *eu-ovina* var. *capillata* (Lam.) Hack. Monogr. Fest. 85 (1882); Hitchc. in Gray Man. ed. 7, 162 (1908).— Field and herbarium study convince me that this is a clearly defined species rather than a variety of *F. ovina*. The principal characters which distinguish it from *F. ovina* are the capillary, usually longer and flexuous leaves, the smaller spikelets with awnless lemmas and the later date of flowering; in some cases as much as two weeks later than that of *F. ovina*.

CAMBRIDGE, MASSACHUSETTS.

# SOME ALLIES OF ANTENNARIA ALPINA FROM NEWFOUNDLAND AND THE LABRADOR PENINSULA.

M. L. FERNALD.

ANTENNARIA **cana** (Fernald & Wiegand), n. comb. *A. alpina*, var. *cana* Fernald & Wiegand, RHODORA xiii. 24 (1911), in part. Planta humifusa, stolonibus foliosis confertis perbrevibus (ad 2 cm. longis); foliis basilaribus anguste cuneato-obovatis vel late oblanceolatis obtusis nec mucronatis basi latis 3–11 mm. longis 2–5 mm. latis supra albidis, tomento denso minuto; caule florifero 2.5–12 cm. alto gracile; foliis caulinis 9–15 subapproximatis linearibus, imis 8–15 mm. longis 1–2 mm. latis apice subulato, superioribus 5–8 mm. longis 0.5–1 mm. latis apice scarioso lanceolato; capitulis femineis (1–) 2–6 campanulatis corymbosis, pedicellis ad 1 cm. longis: involucro 5–7 mm. alto basi lanato; bracteis 3-seriatis subaequalibus tenuissimis, exterioribus oblongis obtusis brunneis, interioribus lanceolatis fulvis leviter fimbriatis; foveis receptaculi maturi denudati 60–100 0.1 mm. latis quam jugis separantibus acutis multo latioribus.

Humifuse, the crowded leafy stolons very short (up to 2 cm. long): rosette-leaves narrowly cuneate-obovate or broadly oblanceolate, obtuse, not mucronate, broad-based, 3–11 mm. long, 2–5 mm. broad, white above with dense minute tomentum: flowering stem 2.5–12 dm. high, slender: cauline leaves 9–15, rather crowded, linear, the lower 8–15 mm. long, 1–2 mm. broad, subulate-tipped; the upper 5–8 mm. long, 0.5–1 mm. wide, with a lanceolate scarious tip: pistillate heads (1–) 2–6, campanulate, corymbose, on pedicels up to 1 cm. long: involucre 5–7 mm. high, lanate at base: bracts 3-seriate, subequal, very thin, the outer oblong, brown; the inner lanceolate, tawny, slightly fimbriate: pits of the mature denuded receptacle 60–100,